

REMARKS

Applicant has amended Claims 28 and 32, the only independent claims in this application, to distinguish over the patent to Breaker.

Breaker shows an O-ring which is embedded in a seal jacket. Thus, the sealing element in Breaker includes two distinct pieces. In the present invention, the annular seal has only one piece. In the present invention, the seal has a thickness which is at least as large as the distance between the surfaces of the sealing plate, as is most clearly shown in the detailed view of Figure 5E. That is, the unitary seal of the present invention is positioned such that it can contact the fluid components which will be placed in abutment with the plate, on either side of the plate. In Breaker, the fluid components cannot abut the O-ring, because the O-ring is embedded within the seal jacket.

The embodiment of Figure 28 of Breaker also shows a support ring having a non-uniform inner diameter. That is, the support ring in Figure 28 of Breaker has a concave inner surface. This concave structure is undesirable in the present invention, as it will weaken the support ring, especially when the support ring is already somewhat weakened by the inclusion of orifices. In the present invention, by contrast to Breaker, the support ring has a generally uniform diameter, as measured at its inner surface, except at the orifice.

Applicant has amended Claims 28 and 32 to emphasize the distinctions discussed above. Both claims now recite that the seal is a one-piece seal, and that the seal has a thickness which is at least as large as the distance between the surfaces of the plate. Support for this limitation is provided most clearly by Figure 5E.

Also, both Claims 28 and 32 now recite the inner surface of the support ring, i.e. the surface which is not in contact with the seal. These claims now recite that the diameter of the support ring, taken at the inner surface, is generally uniform except at the orifice. Support for this limitation is also provided most clearly by Figure 5E.

Applicant submits that the amendments discussed above comprise structural features which are not shown or suggested by Breaker, and that the claims define patentably over Breaker. These features are also not shown or suggested by Rode. Applicant therefore submits that the rejection based on Breaker in view of Rode is overcome.

With respect to the rejection based on Johnson in view of Aichroth in view of Jones, Applicant incorporates by reference the arguments made in the appeal brief of August 4, 2006. Applicant submits that the claims are allowable for the reasons given in that brief.

With respect to the rejection based on Aichroth in view of Rode in view of Jones, Applicant again incorporates by reference the arguments made in the appeal brief of August 4, 2006. Applicant submits that the claims are allowable for the reasons given in that brief.

Applicant submits that it is not reasonable to suppose that Aichroth shows a plate. But even if the thin structure of Aichroth were deemed a "plate", it would certainly not be obvious to form holes in it.

Finally, with respect to the rejection based on Aichroth, Rode, and Breaker, Applicant submits that this combination is legally unwarranted because of the non-obviousness of forming holes in the thin structure of Aichroth. In this combination of references, the inclusion of Breaker has no legal effect, because it does not provide motivation, to the person of

ordinary skill, to form holes in the thin structure of Aichroth.

For the reasons given above, Applicant submits that the claims are allowable. Applicant requests reconsideration by the Examiner, and early favorable action.